	Application No.	**Applicant(s)**
Notice of Allowability	09/899,536	HOLZAPFEL, MARTIN
	Examiner	**Art Unit**
	ABUL K. AZAD	2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Communication filed on July 6, 2001*.

2. ☒ The allowed claim(s) is/are *1-16*.

3. ☒ The drawings filed on *06 July 2001* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some*   c) ☐ None of the:
       1. ☒ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .
    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
       Paper No./Mail Date _____ .
    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)
1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date *7/06/2001*
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____ .

A-K. AB 10/27/04

DETAILED ACTION

1.   Claims 1-16 are pending in this Office Action.

EXAMINER'S AMENDMENT

2.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Mr. Richard A. Gollhofer (Reg. No. 31,106) on October 26, 2004.

The application has been amended as follows:

IN THE CLAIM:

Please amend claim 13 as follows:

13.   A method for determining the length of the individual phones in speech

synthesis, comprising: [as recited in claim 12 using the static generated by the method

recited in claim 1.]

assigning phones of a spoken and recorded text that is segmented into phones,

to phonemes of predetermined primary clusters composed of a plurality of phonemes, in

each case one phone being assigned to a primary phoneme of one of the

predetermined primary clusters if present in the spoken text in a context which is

identical or similar to the context of the primary phoneme;

producing a primary statistic including at least an average phone length of all the phones assigned to a corresponding phoneme of one of the predetermined primary clusters;

assigning phones of the spoken and recorded text to phonemes of predetermined secondary clusters composed of phonemes, a number of phonemes of at least some secondary clusters differing from a number of phonemes of the predetermined primary clusters, in each case one phone being assigned to a secondary phoneme of one of the predetermined secondary clusters if present in the spoken text in a context which is identical to the context of the secondary phoneme;

producing a secondary statistic including at least an average phone length of all the phones assigned to the secondary phoneme;

determining whether a specified phoneme to be converted into speech and having a defined phone length has a corresponding phoneme in a respective secondary cluster;

assigning the average phone length of the secondary statistic to the corresponding phoneme in the respective secondary cluster if the specified phoneme matches the corresponding phoneme in the respective secondary cluster; and

assigning the average phone length of the primary statistic to a corresponding phoneme in a respective primary cluster if the specified phoneme does not match any phoneme in the secondary clusters.

Please amend claim 15 as follows:

15.   A [device] <u>computer system having a storage area in which a program is</u> <u>stored for carrying out a method</u> for generating a statistic for phone lengths<u>, with which</u> <u>the phone lengths can be</u> [to base] control<u>led on the basis</u> of [the phone lengths] <u>this</u> <u>statistic</u> during synthetic speech generation, comprising:

[a computer system having a storage area in which a program for carrying out a method as recited in claim 1 is stored.]

<u>assigning phones of a spoken and recorded text that is segmented into phones,</u> <u>to phonemes of predetermined primary clusters composed of a plurality of phonemes, in</u> <u>each case one phone being assigned to a primary phoneme of one of the</u> <u>predetermined primary clusters if present in the spoken text in a context which is</u> <u>identical or similar to the context of the primary phoneme;</u>

<u>producing a primary statistic including at least an average phone length of all the</u> <u>phones assigned to a corresponding phoneme of one of the predetermined primary</u> <u>clusters;</u>

<u>assigning phones of the spoken and recorded text to phonemes of</u> <u>predetermined secondary clusters composed of phonemes, a number of phonemes of</u> <u>at least some secondary clusters differing from a number of phonemes of the</u> <u>predetermined primary clusters, in each case one phone being assigned to a secondary</u> <u>phoneme of one of the predetermined secondary clusters if present in the spoken text in</u> <u>a context which is identical to the context of the secondary phoneme; and</u>

producing a secondary statistic including at least an average phone length of all the phones assigned to the secondary phoneme.

Please amend claim 16 as follows:

16.   A [device] computer system having a storage area in which a program is stored for carrying out a method for determining the length of individual phones for speech synthesis, comprising:

[a computer system having a storage area in which a program for carrying out a method as recited in claim 11 is stored.]

calculating a primary statistic for phone lengths based on primary phonemes grouped into primary clusters and an average phone length assigned to the primary phonemes;

calculating a secondary statistic for phone lengths based on secondary phonemes grouped into secondary clusters and an average phone length assigned to the secondary phonemes;

determining whether a specified phoneme to be converted into speech and having a defined phone length has a corresponding phoneme in a respective secondary cluster;

assigning the average phone length of the secondary statistic to the corresponding phoneme in the respective secondary cluster if the specified phoneme matches the corresponding phoneme in the respective secondary cluster; and

assigning the average phone length of the primary statistic to a corresponding

phoneme in a respective primary cluster if the specified phoneme does not match any

phoneme in the secondary clusters.

Allowable Subject Matter

3.   Claims 1-16 are allowed over the prior art of record.

4.   The following is an examiner's statement of reasons for allowance:

As per independent claims 1, 12 13, 15 and 16 the applicant teaches a method

for generating a statistic for phone lengths, with which the phone lengths can be

controlled on the basis of this statistic during synthetic speech generation/ a method for

determining a length of individual phones for speech synthesis. The prior art of record

fails to teach or fairly suggest the claimed combination of features. Particularly prior art

of record fails to teach or fairly suggest producing a primary statistic by an average

phone length of all the phones assigned to corresponding to phoneme of one of the

predetermined clusters and producing a secondary statistic by an average phone length

of all the phones assigned to the secondary phoneme.

Regarding the prior art of record, For example Otsuka (US 6,546,367) teaches

statistical data including an average value, a standard deviation, and a minimum value

of a phoneme duration of each phoneme is stored in a memory, when speech

production time is determined for a phone string in a predetermined expiratory

paragraph, the total phoneme duration of the phoneme string is set so as to became

equal to the speech production time, based on the set phoneme duration, phonemes

are connected and a speech waveform is generated. However, Otskuka fails to teach or

fairly suggest producing a primary statistic by an average phone length of all the phones

assigned to corresponding to phoneme of one of the predetermined clusters and

producing a secondary statistic by an average phone length of all the phones assigned

to the secondary phoneme. Therefore, claims 1-16 are allowed over the prior art of

record.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Contact Information

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-**

3838.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **Richemond Dorvil**, can be reached at **(703) 305-9645.**

Any response to this action should be mailed to:

> **Commissioner for Patents**
>
> **P.O. Box 1450**
>
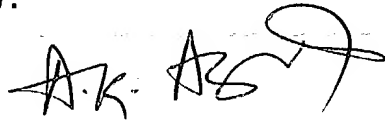> **Alexandria, VA 22313-1450**

Or faxed to:

(703) 872-9314

(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to 2121 Crystal Drive, Arlington,

VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should

be directed to the Technology Center's Customer Service Office at telephone number

(703) 306-0377.

Abul K. Azad

October 27, 2004